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92. (New) The birdcage coil claimed in claim 91 wherein said inferior end includes a first conductive ring and said superior end includes a second conductive ring, with said conductive rods electrically interconnecting said first and said second conductive rings.

93. (New) The birdcage coil claimed in claim 91 wherein said tapered portion of each of said conductive rods has a radius that is selected to maximize homogeneity of said magnetic flux density in at least one of an XZ plane and a YZ plane of said imaging planes.

REMARKS

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In this *Second Preliminary Amendment*, claims 46-93 have been added. The added claims cover subject matter previously disclosed in the text of the present application as originally filed. The ABSTRACT section has been revised herein to comport with the invention claimed in this continuation application. No new matter has been added to the present application by virtue of this *Second Preliminary Amendment*. Procedurally, all of the amendments made herein comply with the requirements of 37 C.F.R. §1.121. Applicants submit that the application is in condition for allowance.

I. New Claims 46-93 Based On Subject Matter Previously Disclosed in Present and Parent Applications

Applicants respectfully submit that the claims in this *Second Preliminary Amendment* add no new matter to the present application.

The revisions made herein have support in both the present application and the parent application on which it is based. Because MPEP §2163.06 and MPEP §2163.07 are dispositive on this issue, Applicant quotes the relevant sections thereof as follows:

MPEP § 2163.06 Relationship of Written Description Requirement  
To New Matter

\* \* \* If an applicant amends ... the abstract, specification or drawings of an application, an issue of new matter will arise if the content of the amendment is not described in the application as filed. Stated another way, *information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter.* (emphasis added)

MPEP §2163.07 Amendments to Application Which Are Supported in  
the Original Description

Amendments to an application which are supported in the original description are NOT new matter. (emphasis in original)

Applicants point out that the subject matter recited in new claims 46-93 was described in the present application as originally filed. Applicants also point out that the same subject matter was also described in the parent application, i.e., U.S. Application Serial No. 09/449,256, filed November 24, 1999, which issued as U.S. Patent 6,344,745 on February 5, 2002. The claimed subject matter also has support in the provisional application on which both the present and parent applications are based, namely, U.S. Provisional Application Serial No. 60/109,831, November 25, 1998.

Based on the foregoing, Applicants respectfully request examination of new claims 46-93.

CONCLUSION

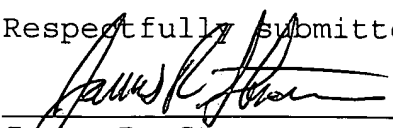
The *Substitute Specification* submitted herewith has been filed in response to a *Notice To File Corrected Application Papers*, which was mailed August 16, 2002. The *Substitute Specification* overcomes the deficiencies cited in the *Notice*, and thus places the above-cited application in compliance with 37 C.F.R. §1.52.

Be advised that, in the earlier-filed *Preliminary Amendment*, claims 1-17 were canceled and claims 18-45 were added and paid for.

In this *Second Preliminary Amendment*, Applicants now add claims 46-93 (i.e., six (6) independent claims and forty-two (42) dependent claims) to the application for which payment is made herewith. Consequently, upon entry of this *Second Preliminary Amendment*, the application will contain seventy-six (76) claims total: ten (10) independent claims and sixty-six (66) dependent claims.

If the Examiner has any questions regarding the *Substitute Specification*, this *Second Preliminary Amendment* or the earlier-filed *Preliminary Amendment*, he/she is invited to call the undersigned at the telephone number listed below.

Respectfully submitted,

  
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APPENDIX I

MARKED-UP COPY OF REVISED SECTIONS OF APPLICATION

(Provided pursuant to 37 C.F.R. §1.121(b)(2)(iii))

ABSTRACT

A [method] coil for creating improved homogeneity in magnetic flux density in a radio frequency resonator for magnetic resonance imaging and spectroscopy of the human head. The coil has a plurality of conductive members. Each of the conductive members has a linear portion and a tapered portion. The conductive members are arranged to form a first opening having a first diameter and a second opening having a second diameter, with the second diameter being different from the first diameter. The tapered portions of the conductive members provide the coil with a substantially homogeneous pattern of magnetic flux density in at least one of three orthogonal imaging planes of the coil. [A tapered birdcage resonator is also provided. The tapered birdcage resonator includes two electrically conductive rings and a plurality of rods or conductor legs. The first electrically conductive ring forms an inferior end of the coil. The plurality of legs extends from the first electrically conductive ring. Each of the plurality of legs has a linear portion and a tapered portion. The second electrically conductive ring forms a superior end of the coil and is connected to the tapered portion of the plurality of legs.]

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